



Natural Resources Conservation Service
P.O. Box 2890
Washington, D.C. 20013

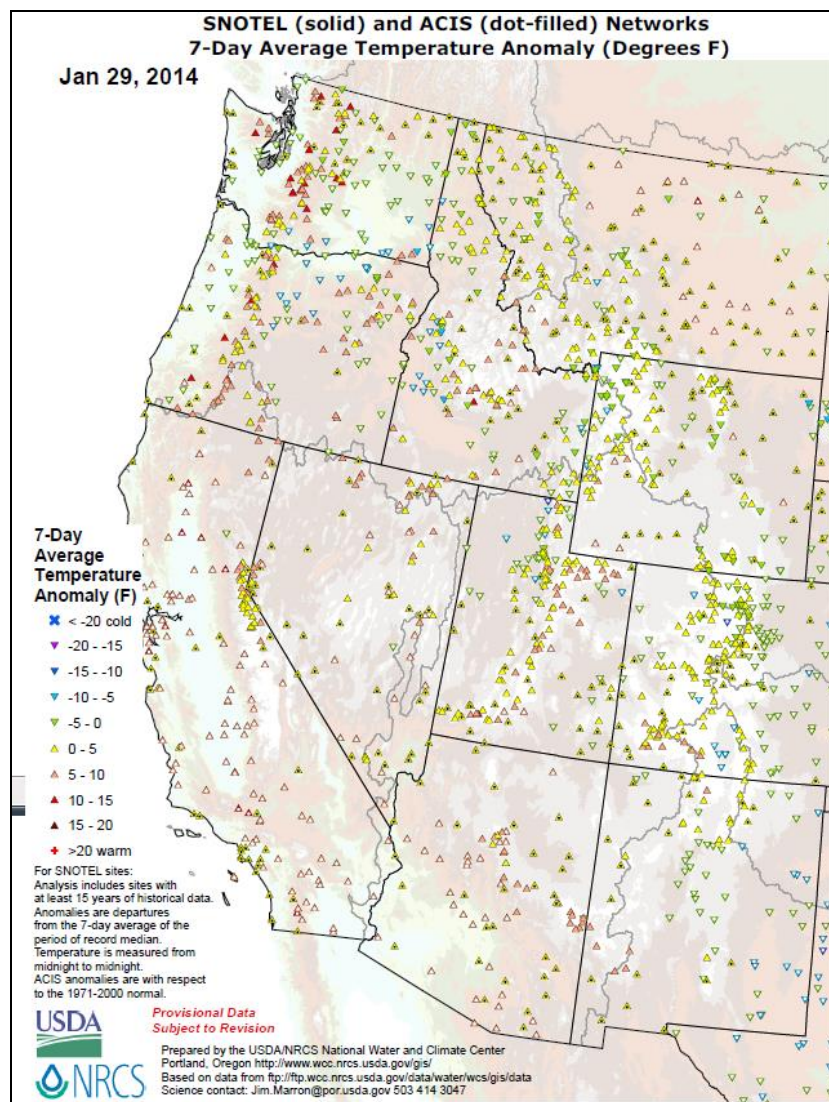
United States Department of Agriculture

Weekly Snowpack / Drought Monitor Update

January 30, 2014

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Temperature



SNOTEL and ACIS [7-day temperature anomaly](#) map shows temperatures above normal across almost the entire West as strong high pressure continues to dominate the region.

Click on most maps in this report to enlarge and see latest available update.

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment

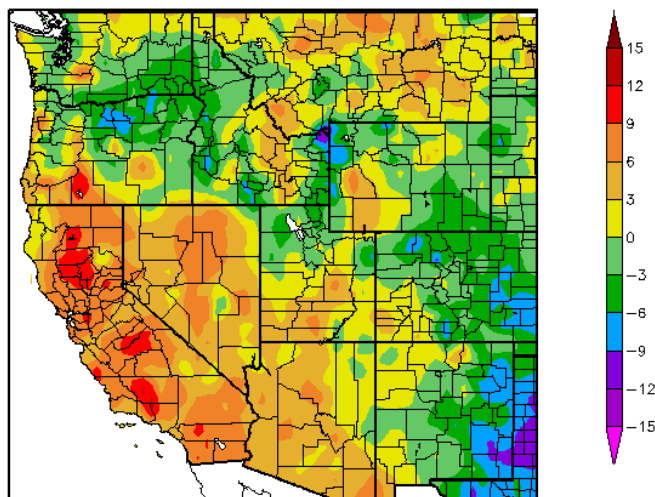
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Weekly Snowpack and Drought Monitor Update Report

[ACIS](#) 7-day average temperature anomalies, ending January 29, show the greatest negative temperature departures over parts of north-central Oregon and near Yellowstone National Park ($<-6^{\circ}\text{F}$). The greatest positive temperature departures occurred over parts of California ($>+9^{\circ}\text{F}$).

Also see [Dashboard](#) and the [Westwide Drought Tracker](#).

Departure from Normal Temperature (F)
1/23/2014 – 1/29/2014



Generated 1/30/2014 at HPRCC using provisional data.

Regional Climate Centers

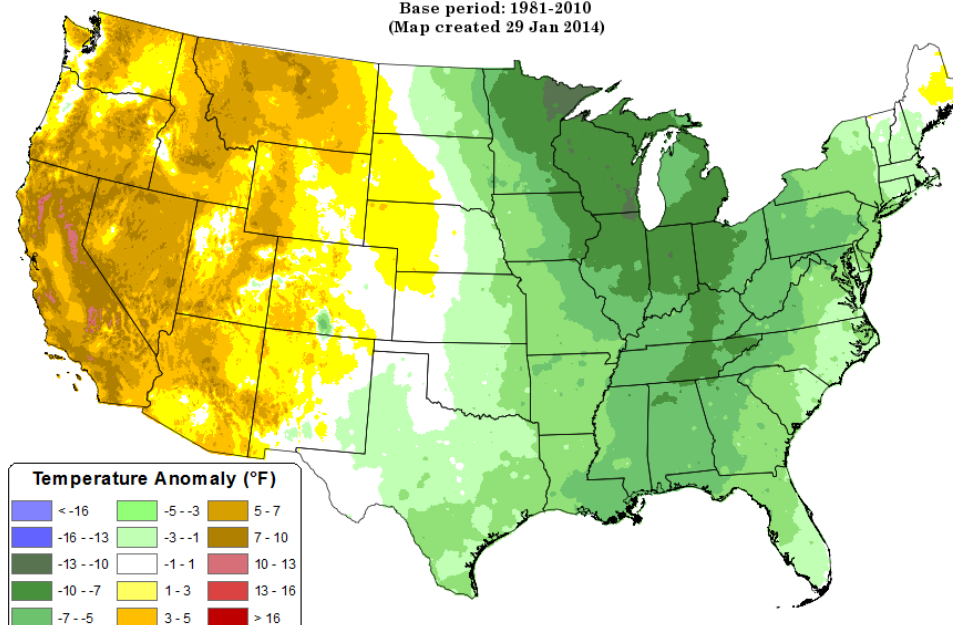
Daily Mean Temperature Anomaly: 01 January 2014 - 28 January 2014

Period ending 7 AM EST 28 Jan 2014

Base period: 1981-2010

(Map created 29 Jan 2014)

This preliminary [PRISM](#) temperature map contains all available network data, including SNOTEL data, and will be updated periodically as additional data become available and are quality controlled.



Copyright (c) 2014, PRISM Climate Group, Oregon State University

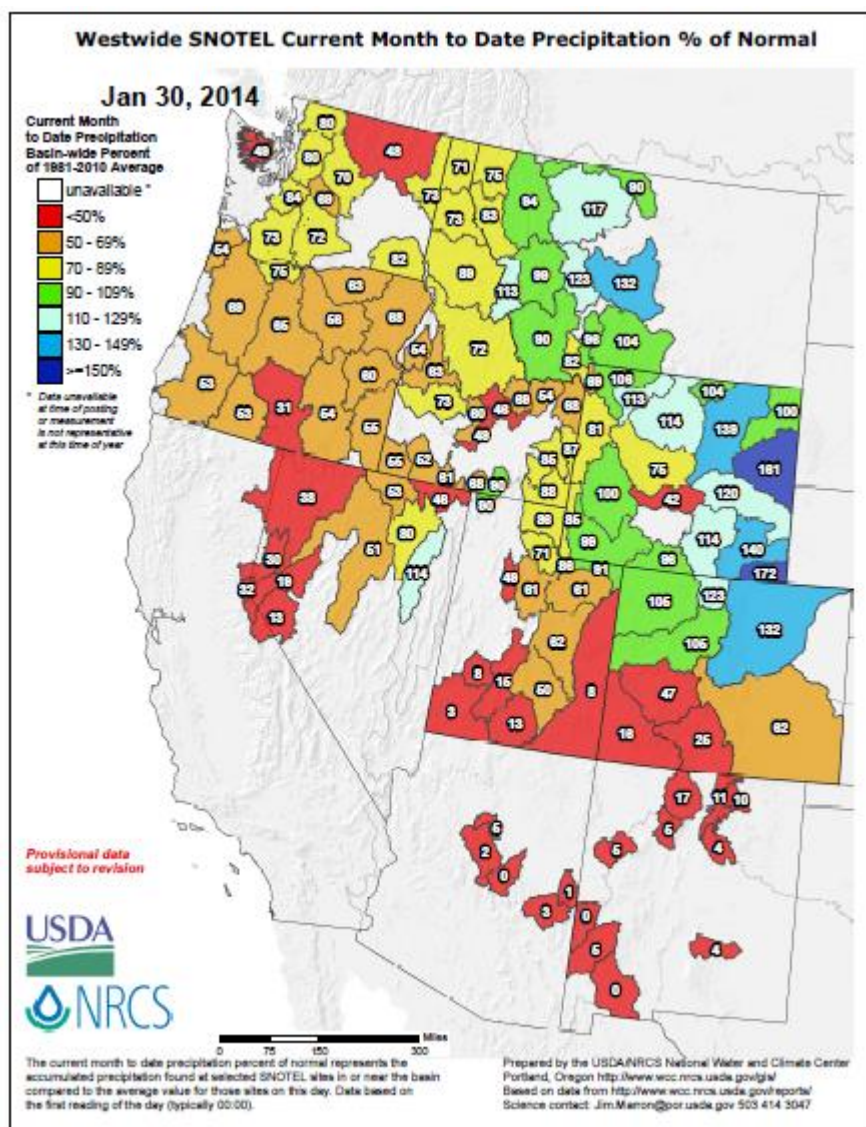
For January, it has been very cold over the arrowhead region of Minnesota ($<-10^{\circ}\text{F}$ departure). Warmer than normal temperatures have occurred over the western half of the western states ($>+10^{\circ}\text{F}$ departure over the Sierra Nevada).

Weekly Snowpack and Drought Monitor Update Report

Precipitation

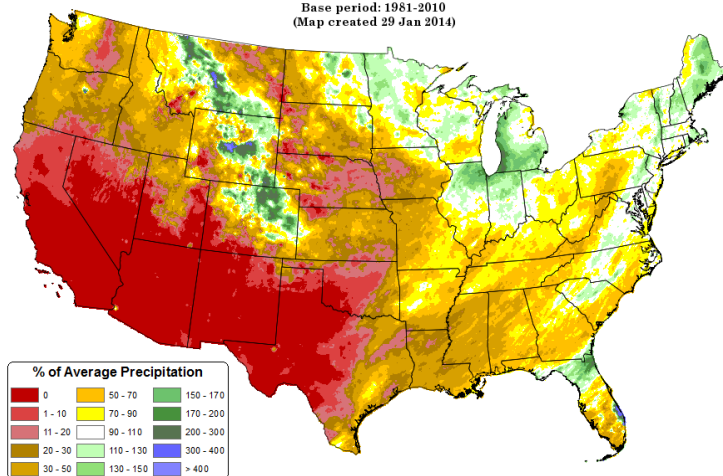
SNOTEL [month to date](#) precipitation percent of normal shows that **parts of the central and northern Rockies** have received surplus moisture. Significant deficits dominate the remainder of the West; especially over the southern Cascades, Sierra Nevada, Great Basin, Four Corners region, Arizona, and New Mexico.

Note that it takes only a few winter storms to help increase values to near normal over the Southwest, whereas it requires more storms to have the same impact over the Pacific Northwest.



Total Precipitation Anomaly: 01 January 2014 - 28 January 2014

Period ending 7 AM EST 28 Jan 2014
Base period: 1981-2010
(Map created 29 Jan 2014)



← For January, precipitation surpluses dominated the **eastern slope** of northern and central Rockies and **western High Plains**. Deficits dominated most of the remainder of the Western States and central Plains. However, with a few exceptions over the Great Lakes, New England, and northern Florida, the U.S. as a whole has had a dry month.

This preliminary daily PRISM precipitation map contains all available network data, and is updated periodically as additional data become available and are quality controlled.

Weekly Snowpack and Drought Monitor Update Report

[ACIS 7-day](#) average precipitation amounts show very limited precipitation falling across the West. Areas with the highest totals were over the central Cascades, northwestern-most California, and the Olympia Range in Washington. →

The effect of the strong high pressure ridge over the West has been evident during the past few weeks.

Drought news from California

[What a Drought Can Do to Your Health](#) -

Jan 19

[Drought impact on mountain tourism](#) - Jan

20

[Drought keeps golfers happy, course](#)

[management concerned](#) - Jan 22

[Fishing the North Coast: D-word putting](#)

[the hurt on local businesses](#) - Jan 23

[Warm Winter Weather Brings Unseasonal](#)

[Activity To Yosemite](#) - Jan 22

[California Drought Loosens Some](#)

[Environmental Rules](#) - Jan 20

[Well workers in high demand amidst](#)

[drought](#) - Jan 21

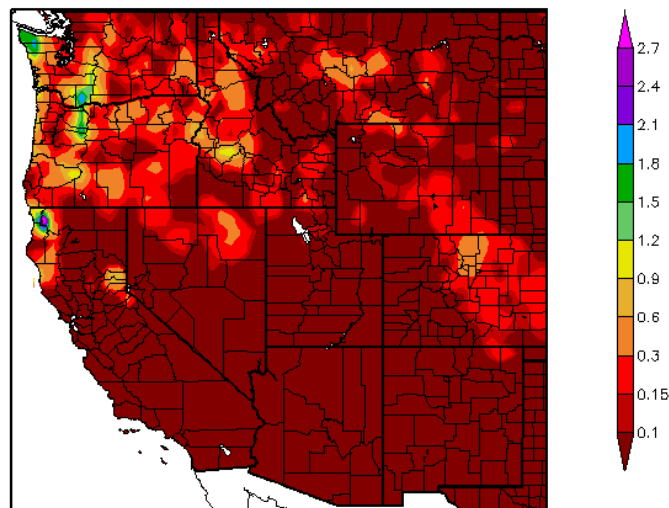
[Mendocino County sheriff: Pot growers](#)

[steal water](#) - Jan 22.

This [map](#) shows that the bulk of precipitation by percent of normal occurred across the northern and eastern tier of the western states. Elsewhere, especially over the southern tier, no rainfall or snowfall occurred during the past week.

Note that these ACIS maps reflect only low-elevation stations, where precipitation is typically light this time of year. Low-elevation (valley) precipitation amounts have begun to increase as we head toward late winter and early spring.

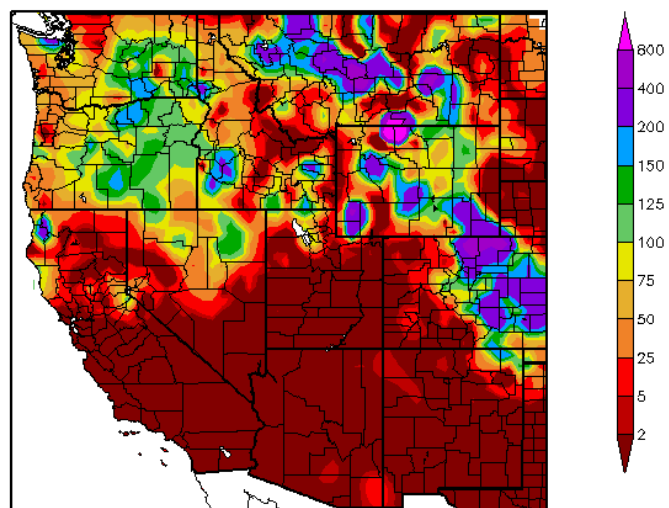
Precipitation (in)
1/23/2014 - 1/29/2014



Generated 1/30/2014 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)
1/23/2014 - 1/29/2014



Generated 1/30/2014 at HPRCC using provisional data.

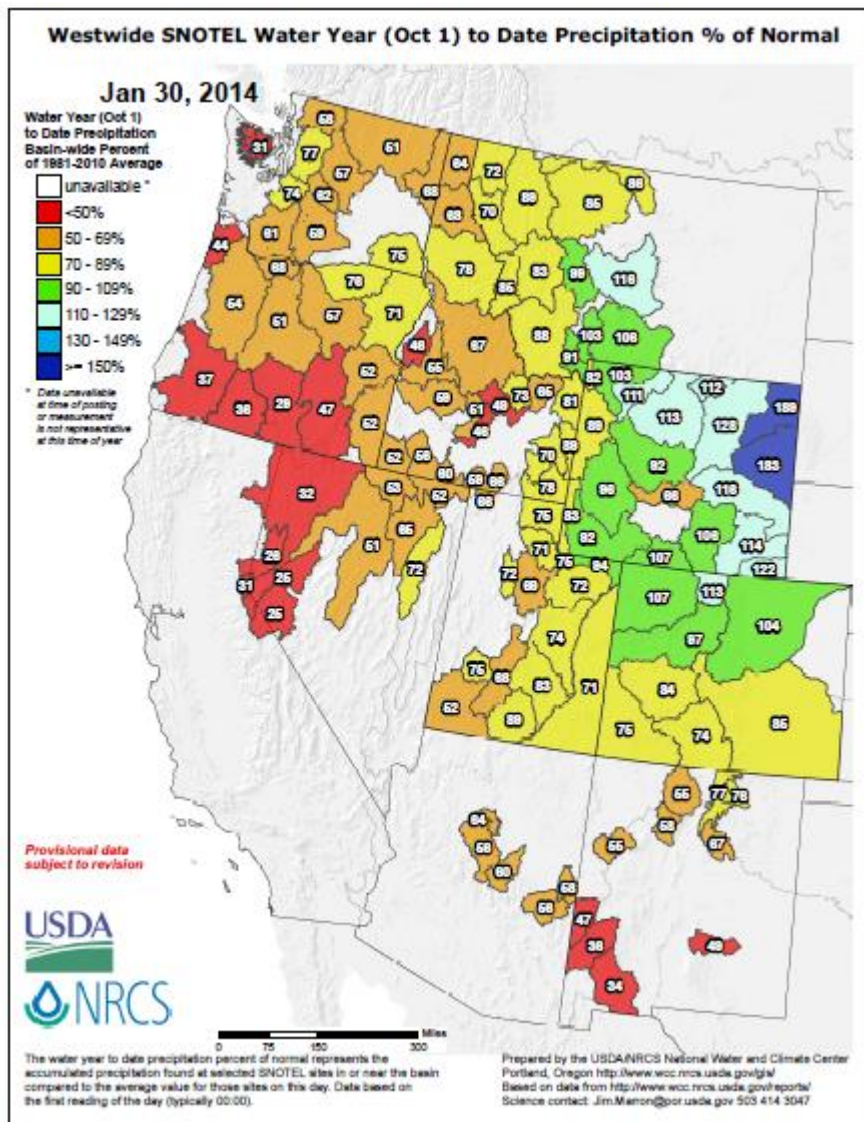
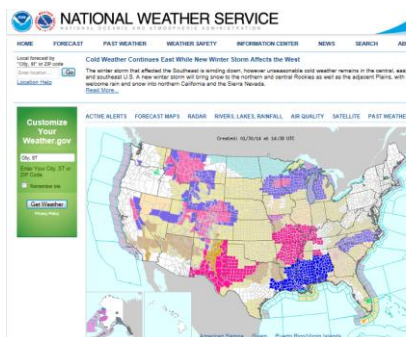
Regional Climate Centers

Weekly Snowpack and Drought Monitor Update Report

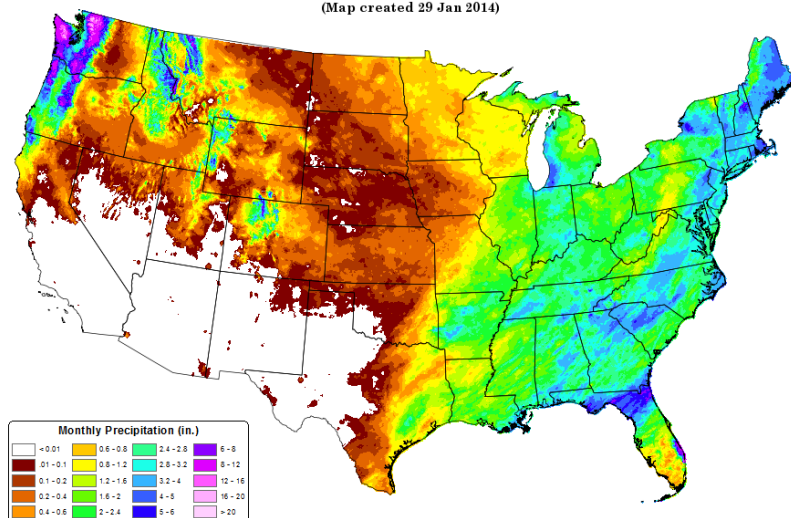
For the [2014 Water Year](#) that began on October 1, 2013, the neutral ENSO pattern is quite dry over the western half of the West, including Arizona and New Mexico. Areas east of the Continental Divide (e.g., south-central Montana, Wyoming, and north-central Colorado) have fared better.

The current forecast and winter weather warnings should help parts of the Rockies (a few inches of snow is expected for the Sierra Mountains) during the next two days:

Warning and advisories



Total Precipitation: 01 January 2014 - 28 January 2014
Period ending 7 AM EST 28 Jan 2014
(Map created 29 Jan 2014)



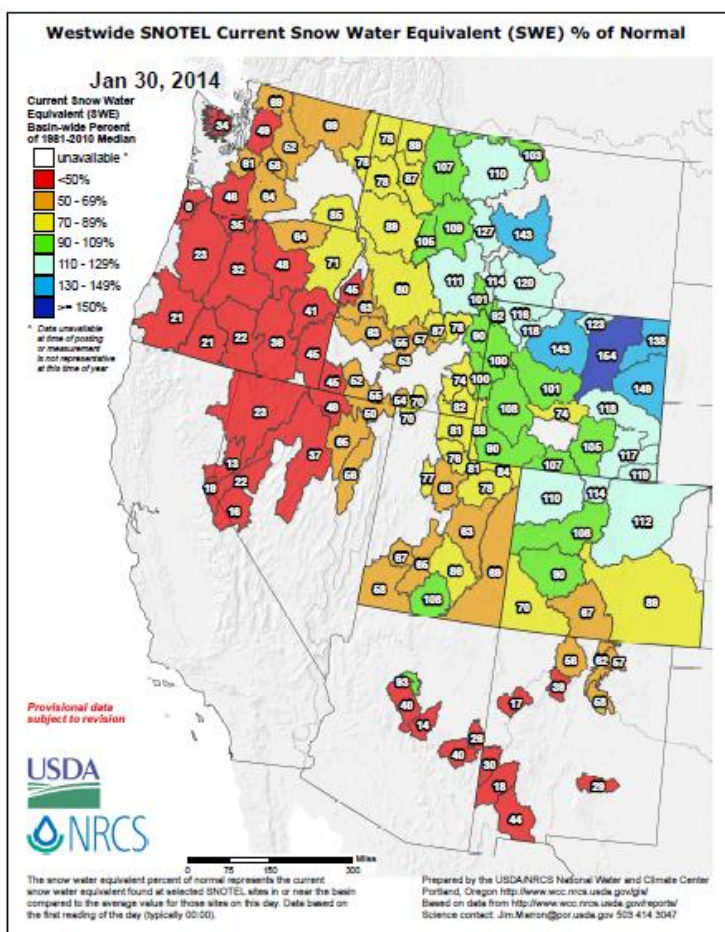
In this [PRISM](#) map, preliminary data show the **total precipitation** amount (rain and snow water equivalent) through January 28.

Resolution for this PRISM map is 4x4 km.

What is most striking about this map is the lack of precipitation across the southern half of the West. Despite what appears to be abundant moisture over the Washington coastal ranges and Cascades, these totals are actually below the long-term averages.

Weekly Snowpack and Drought Monitor Update Report

Snow

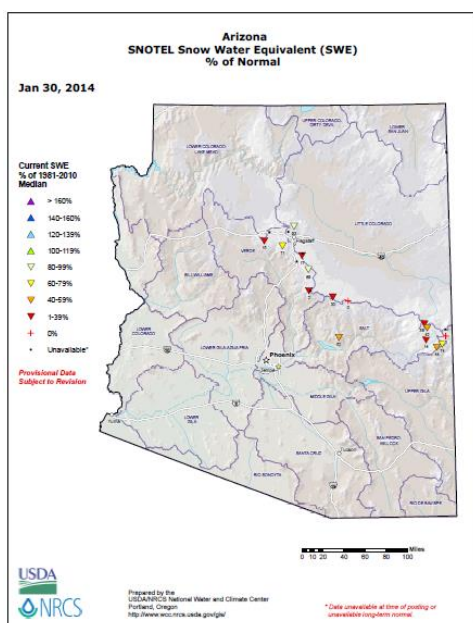


Snow Water Equivalent (SWE) values are higher east of the Continental Divide.

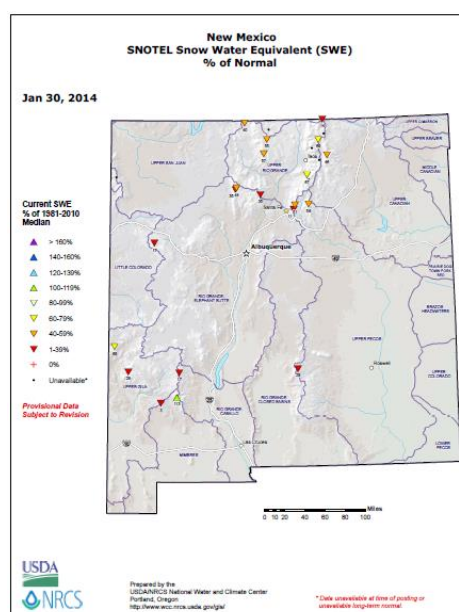
Conditions west of the Continental Divide and over the Southwest continue to deteriorate. **Values have decreased by at least 1% to 3% per day over most basins the past week under mostly sunny, windy, and dry air.**

The all-important April 1 SWE date will best determine the water supply forecasts issued by the National Water and Climate Center.

See latest National Snow Analysis



Arizona SWE map by station



New Mexico SWE map by station

Why it is so dry (CLIMAS [Podcast](#) or [here](#)).

Weekly Snowpack and Drought Monitor Update Report

Weather and Drought Summary

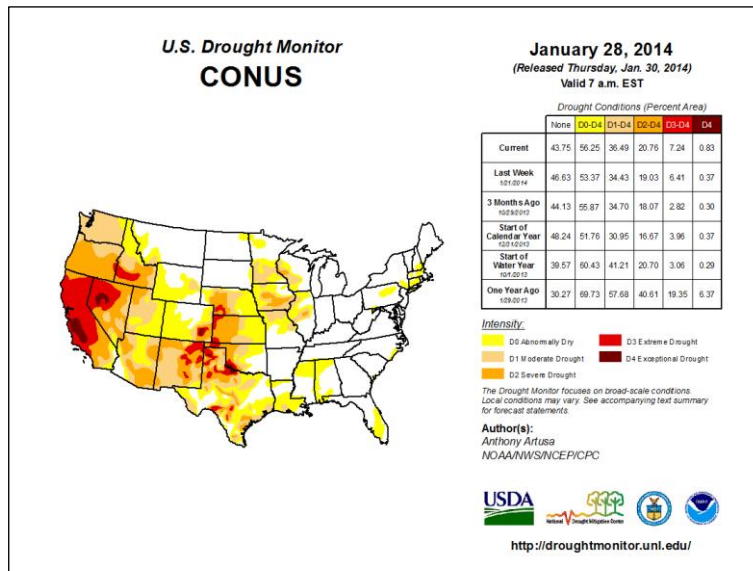
National Drought Summary – January 28, 2014

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author: Anthony Artusa, NOAA/NWS/NCEP/CPC

[USDM Map Services](#): (contains archived maps)

D-4 Exceptional drought only encompasses 0.83% of the U.S.

[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across NV, CO, TX, and OK.



The latest [drought indicator blend and component percentiles](#) spreadsheet is a great resource for climate division drought statistics. This link is for the latest [Drought Outlook](#) (forecast). See [climatological rankings](#).

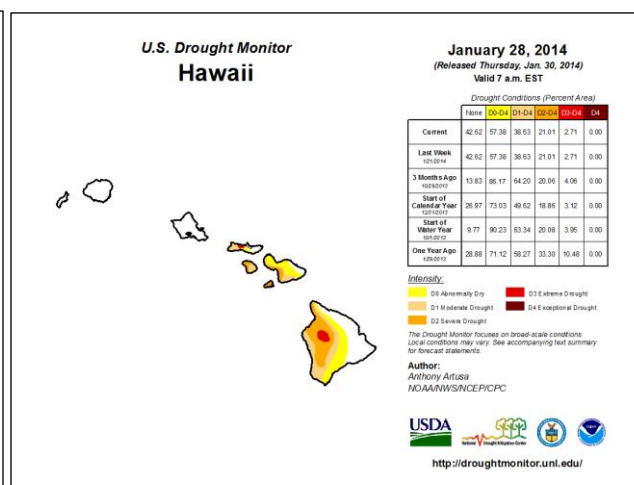
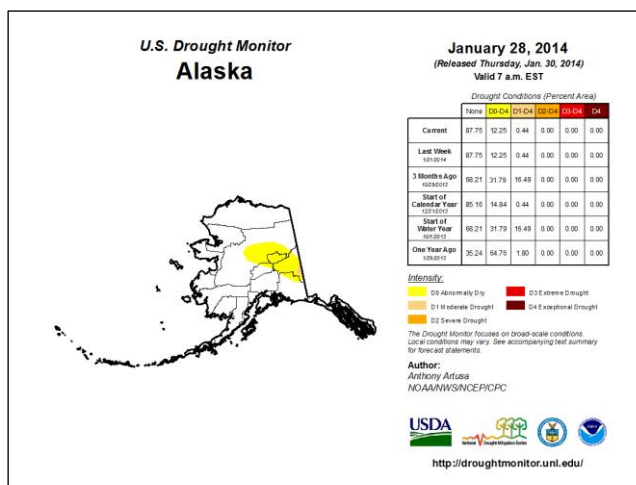
For more drought news, see [Drought Impact Reporter](#).

Drought Management Resources (✓):

- ✓ [Watch AgDay TV](#)
- ✓ [Drought Impacts Webinar Series](#)

Latest Drought [Impacts](#) during the past week:

- [Drought Persists as Low Temperatures Threaten Wheat](#) - Jan 23, **U.S.**
- [Punchlines: Which is worse, drought or snow?](#) - Jan 22, **U.S.**



"The 49th and 50th States show benign drought conditions with the exception of the Big Island of Hawaii and leeward sides of the central island group of the state."

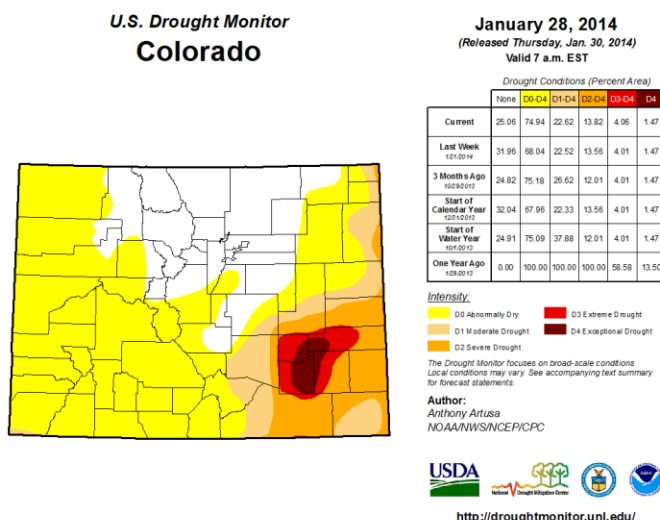
A comprehensive narrative describing drought conditions across other parts of the nation can be found toward the end of this document. For drought impacts definitions for the figures below, click [here](#).

Weekly Snowpack and Drought Monitor Update Report

- ✓ Drought Monitor for the [Western States](#)
- ✓ Drought Impact Reporter for [New Mexico](#)
- ✓ [California Data Exchange Center](#) & [Flood Management](#)
- ✓ [Intermountain West Climate Dashboard](#)
- ✓ [Great Basin Dashboard](#)
- ✓ [CLIMAS January 2014 Climate Summary](#)

Across the West

- [Drought Provides Window to Old West](#) - Jan 24
- [Dust In The Wind – A "Silent Epidemic" Rises In The Southwest](#) - Jan 21
- [No Drought Worries Yet for Washington](#) - Jan 22, WA
- [Jackson County faces lowest water levels ever](#) - Jan 22, OR
- [Dry winter causes severe drought](#) - Jan 23, OR.
- [Winter drought sparks concerns across state](#) - Jan 24, OR
- [Latest snowfall helps, but drought conditions persist through parts of Colorado](#) - Jan 23, CO
- [Snowpack diminishing as northern Arizona heads for record winter dry](#) - Jan 23, AZ

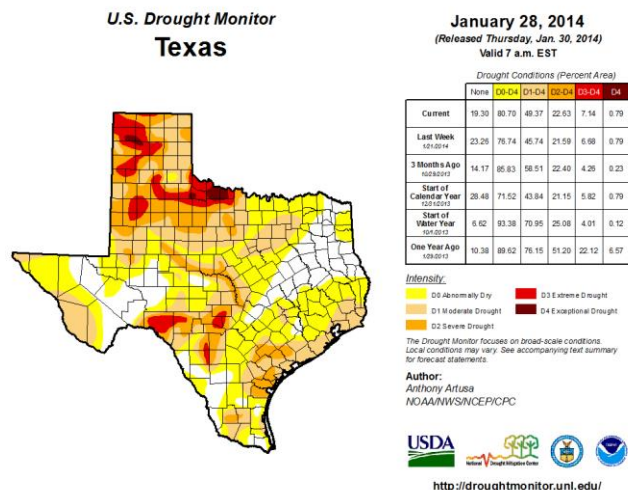


No changes have occurred during the past week.

State with D-4 Exceptional Drought

- ✓ Texas Drought [Website](#).
- ✓ [Texas Reservoirs](#).
- ✓ [Texas Drought Monitor Coordination Conference Call](#): on Monday's 2:00 PM - 3:00 PM CST

Texas [Impacts](#) during the past week

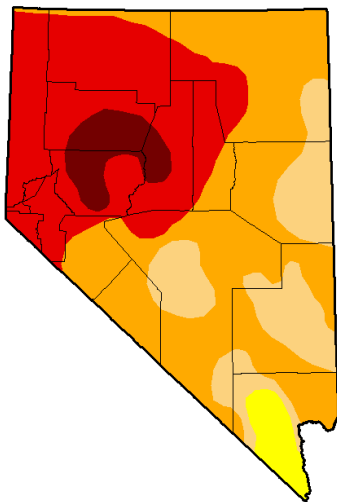


Deterioration has occurred mainly in D0 to D2 during the past week.

Weekly Snowpack and Drought Monitor Update Report

State with D-4 Exceptional Drought

U.S. Drought Monitor Nevada



January 28, 2014
(Released Thursday, Jan. 30, 2014)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	96.80	80.30	38.17	5.37
Last Week 1/21/2014	0.00	100.00	96.80	80.30	38.17	5.37
3 Months Ago 10/29/2013	0.40	99.60	96.81	79.11	28.55	5.37
Start of Calendar Year 12/31/2013	0.39	99.61	96.81	77.66	28.55	5.37
Start of Water Year 10/1/2013	0.39	99.61	96.79	79.11	28.55	5.37
One Year Ago 1/29/2013	0.11	99.89	93.71	56.06	9.28	0.00

Intensity:

D0 Abnormally Dry D3 Extreme Drought
D1 Moderate Drought D4 Exceptional Drought
D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements.

Author:
Anthony Artusa
NOAA/NWS/NCEP/CPC



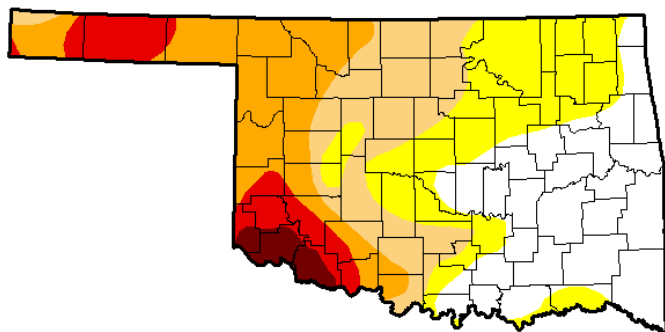
<http://droughtmonitor.unl.edu/>

**No changes have
occurred during the
past week.**

State with D-4 Exceptional Drought

U.S. Drought Monitor Oklahoma

**Significant deterioration
occurred during the past week
in every category except for
D4.**



January 28, 2014

(Released Thursday, Jan. 30, 2014)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	29.84	70.16	46.74	28.80	10.12	2.40
Last Week 1/21/2014	35.17	64.83	38.04	18.99	4.84	2.40
3 Months Ago 10/29/2013	47.79	52.21	30.50	14.58	4.42	1.47
Start of Calendar Year 12/31/2013	50.84	49.16	38.17	18.99	4.84	2.40
Start of Water Year 10/1/2013	21.74	78.26	43.00	17.62	4.42	1.45
One Year Ago 1/29/2013	0.00	100.00	100.00	100.00	92.14	39.58

Intensity:

D0 Abnormally Dry D3 Extreme Drought
D1 Moderate Drought D4 Exceptional Drought
D2 Severe Drought

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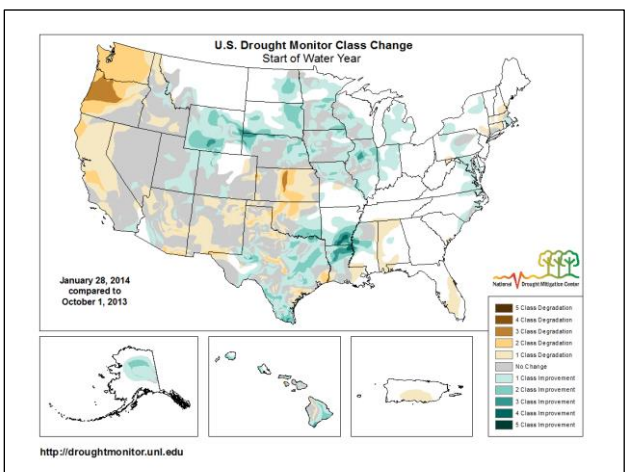
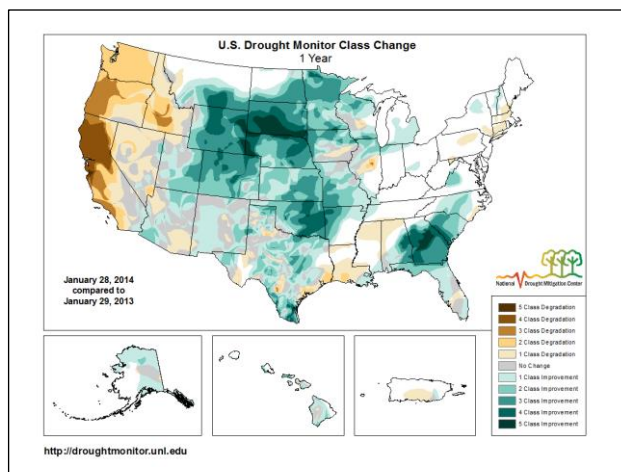
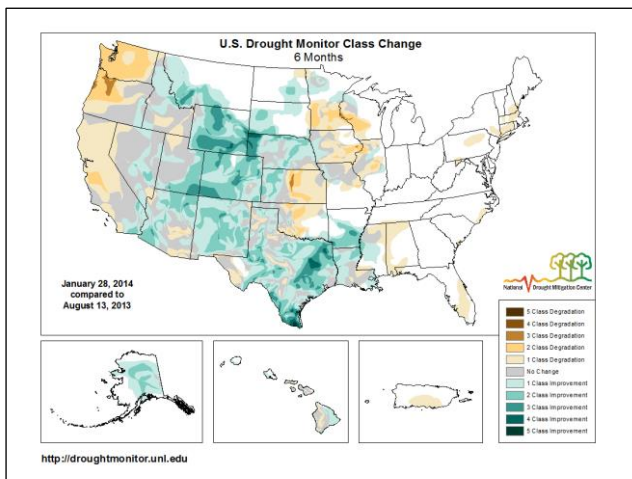
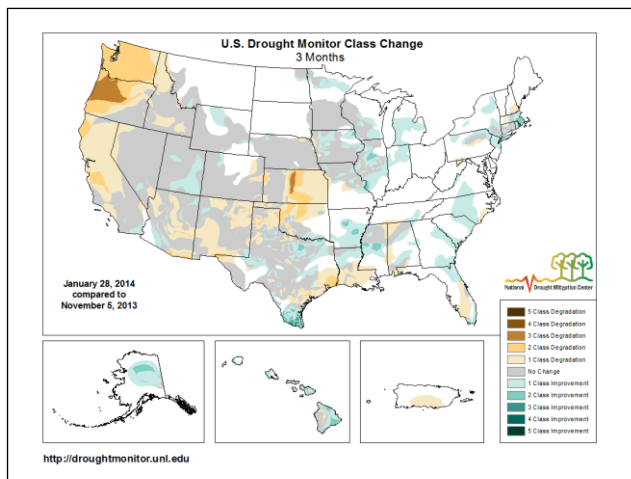
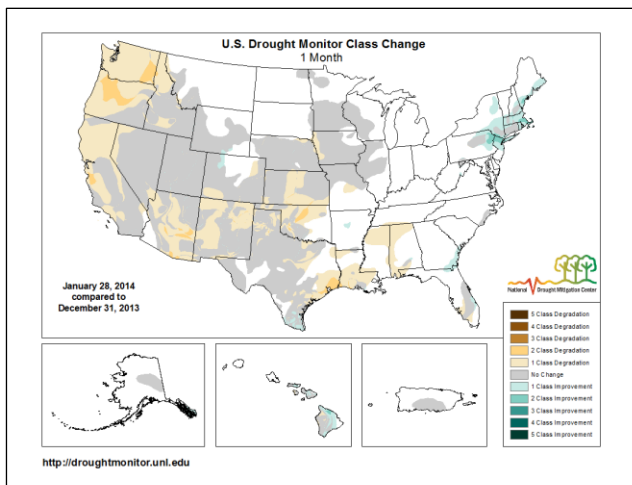
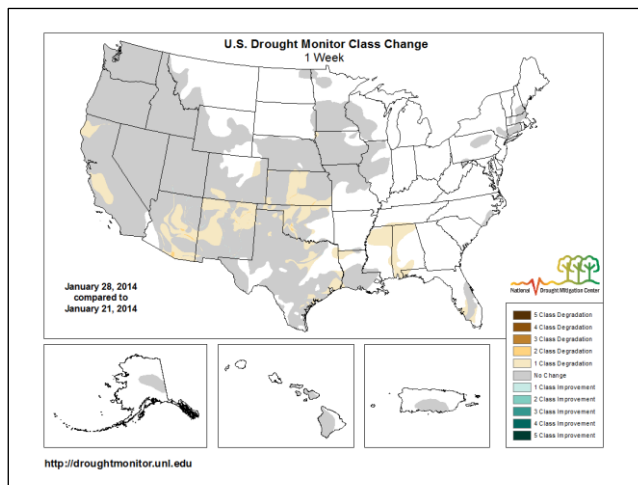


<http://droughtmonitor.unl.edu/>

- [City of Edmond issues burn ban](#) - Jan 21, Oklahoma.

Weekly Snowpack and Drought Monitor Update Report

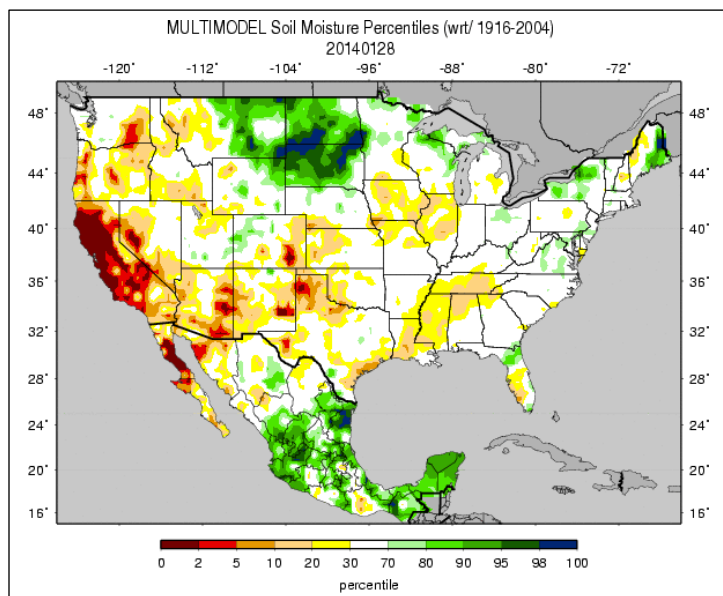
New Feature: [Changes in Drought Monitor Categories](#) (over various time periods)



Winter time changes to the drought monitor are usually minimal. However, over the past one to three months, drought conditions have significantly worsened over the Pacific Northwest.

Weekly Snowpack and Drought Monitor Update Report

Soil Moisture



Soil moisture ranking in [percentile](#) as of January 28 shows considerable dryness over California, parts of Oregon, Washington, and the Four Corner states. Moist soils dominate the Northern Plains and many of the eastern states.

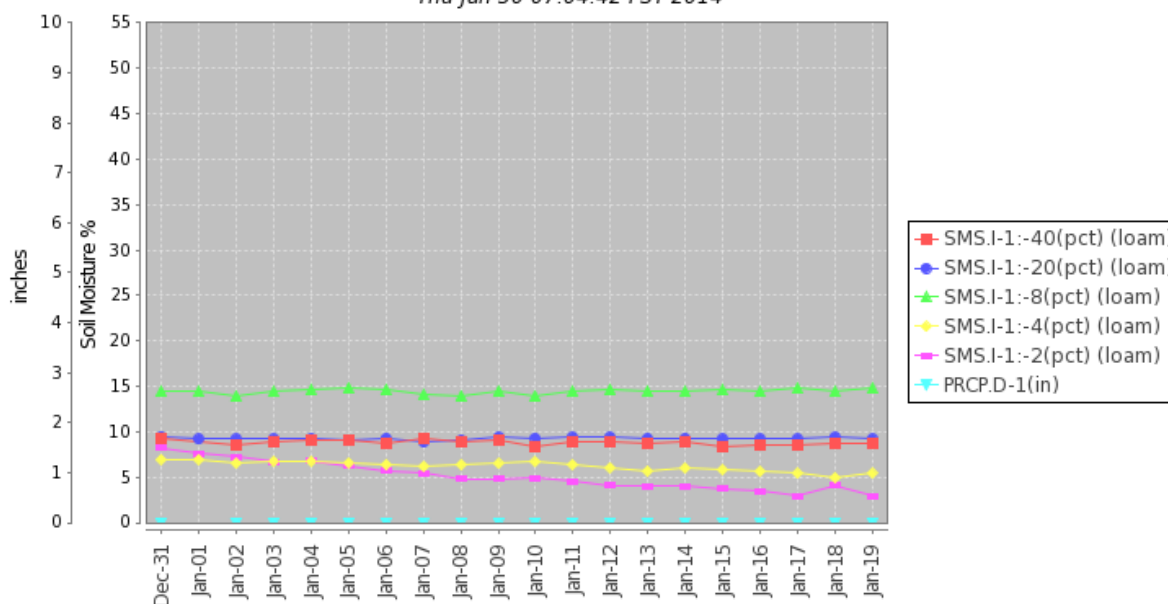
Useful Hydrological Links: [Crop Moisture Index](#); [Palmer Drought Severity Index](#); [Standardized Precipitation Index](#); [Surface Water Supply Index](#); [Weekly supplemental maps](#); [Minnesota Climate Working Group](#); [Experimental High Resolution Drought Trigger Tool](#); [NLDAS Drought Monitor](#); [Soil Moisture](#).

[Soil Health-unlock your farm's potential](#)

Note: As the ground freezes, accuracy of measured moisture decreases.

Soil Climate Analysis Network ([SCAN](#))

Station (2171) MONTH=2013-12-31 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Jan 30 07:04:42 PST 2014



This NRCS resource shows soil moisture data at a SCAN site located in [central New Mexico](#) with relatively dry soils. There has been no precipitation in this region since [December 21st](#).

Useful Agriculture Links: [Vegetation Drought Response Index](#); [Evaporative Stress Index](#); [Vegetation Health Index](#); [NDVI Greenness Map](#); [GRACE-Based Surface Soil Moisture](#); [North American Soil Moisture Network](#); [Monthly Wild Fire Forecast Report](#).

Weekly Snowpack and Drought Monitor Update Report

[National Drought Summary for January 28, 2014](#)

Author: Anthony Artusa, NOAA/NWS/NCEP/CPC

Summary

"During the past 7-days, an amplified ridge dominated weather conditions across the western third of the contiguous U.S. (CONUS), while a broad trough prevailed over the central and eastern thirds of the CONUS. Early in the period, two distinct low pressure centers and two cold fronts consolidated into one potent winter storm near the mid-Atlantic coast. This storm system brought significant snowfall to the northern mid-Atlantic region and the Northeast, with amounts generally ranging from 6-14 inches, though some areas had less accumulation, while others reported more. The remainder of the period was dominated by a series of fast-moving, clipper-type systems, which brought bitter cold arctic air to most of the central and eastern lower 48 states. Maximum temperatures during this period from the Upper Mississippi Valley eastward across the Great Lakes to interior portions of the northern and central Atlantic states climbed into the 30's and 40's, while minimum temperatures ranged from near zero to about 30 degrees below zero F. Precipitation was largely confined to the Great Lakes, the Northeast, and the Texas coast, though amounts were mostly in the 0.5-1.5 inch range (liquid equivalent). The West in general remained relatively mild and dry during the past 7-days.

Alaska, Hawaii, and Puerto Rico

Precipitation in Alaska during the past 7-days was primarily restricted to the South Coast and Panhandle regions. Most of these locations received anywhere from 0.5-4.0 inches of precipitation (liquid equivalent). However, even heavier amounts (5 inches or greater) were reported at various sites along the coast from Prince William Sound to Yakutat Bay. In Hawaii, most of the reporting stations on Kauai and Oahu, and the leeward slopes of the Big Island reported light to moderate shower activity (less than 2 inches), while Maui and the windward slopes of the Big Island reported heavy rainfall (2-3 inches, locally heavier). In Puerto Rico, light to moderate rainfall (less than 2 inches) fell across the eastern half of the island, while little to no precipitation was observed over the western half of the island. No adjustments were considered necessary to the drought depiction for any of these three areas this week.

California

Drought and relatively mild temperatures continue to prevail across the state. In the northwestern part of California, a 1-category degradation from severe to extreme drought (D2 to D3) was made across Humboldt and Trinity Counties. The Central Sierra Snow Lab near the Donner Summit reports 8 inches of snow on the ground, the lowest for this time in January since at least 1946. In the general vicinity of Monterey to Bakersfield, conditions warranted a 1-category downgrade, from extreme to exceptional drought (D3 to D4). A few of the impacts within the D4 area include fallowing of land, wells running dry, municipalities considering drilling deeper wells, and little to no rangeland grasses for cattle to graze on, prompting significant livestock sell off.

Mississippi Valley

Significant precipitation deficits are mounting over northwestern Louisiana. The 30-day PNP's fall within the lowest quartile (AHPS) and 20th-35th percentiles (ACIS), and these parishes (Caddo, Bossier, Webster, Claiborne, and parts of northern Union) have received less than an inch of rain within this period. This, coupled with support from the short-term drought blend, prompted the introduction of

Weekly Snowpack and Drought Monitor Update Report

abnormally dry conditions (D0) in this area. No changes were considered necessary to the depiction over the central and northern Mississippi Valley this week.

Northeast and mid-Atlantic

Though a few spotty locations (such as the Philadelphia-Trenton area) reported moderate precipitation (0.5-2.0 inches) during the past 7-days, most of the Northeast received little if any precipitation, as several surges of cold, dry arctic air dominated the region. Stream flows are generally close to normal across southern New England and the northern mid-Atlantic region. The relatively small areas of abnormal drought (D0) on the map are due, in part, to longer-term precipitation deficits (ACIS 180-day PNP values generally between 70-90 percent). No changes were deemed necessary to the drought depiction this week over the Northeast.

Southeast

Significant precipitation deficits have mounted over northwestern-, western-, and south-central Alabama, and much of Mississippi during the past 60-days. Percent of Normal Precipitation (PNP) from the Advanced Hydrologic Prediction System (AHPS) is running anywhere from 50-90 percent of normal. Abnormally dry and windy conditions, rapidly falling stream flows during the past 1-2 weeks, and small brush fires collectively support the introduction of abnormally dry (D0) conditions across these areas.

In North Carolina, short-term dryness has been the rule after a relatively wet November-December period. With both the winter season characterized by low evapotranspiration (ET) rates, and the winter storm now exiting the region, it was decided to leave the state's depiction as status quo. Reassessment of conditions in the wake of this current winter storm will determine whether or not to remove the area of abnormal dryness (D0) over the southeast part of the state.

In southern and southwestern portions of the Florida peninsula, continuing dryness (60-day and 90-day precipitation deficits) and an elevated fire risk prompted some expansion of abnormal dryness (D0) in this region. Conditions from Glades County southwestward into Collier County will be reassessed next week, and a determination will then be made whether or not to downgrade the depiction from D0 to D1 in this area.

Southern and Central Plains

In Texas, much of the eastern Panhandle has received 25 percent or less of normal precipitation in the past 60-days, with some locales in the lowest 5 percent (AHPS). This sizable area of lowest quartile PNP's extends into western Oklahoma. PNP's within the second quartile (25-50 percent of normal) are widespread across much of Oklahoma and southeastern Texas. Thus far this month in Oklahoma, Lawton and Frederick have not received any precipitation, and Clinton has received only a trace of precipitation. Subzero dew points have occurred throughout much of January. As a result, 1-category degradations were made within these areas. In northwest Kansas, near the town of Colby, strong winds and blowing dust are being blamed for an 11-car pileup, which resulted in 3 fatalities.

Southwest

In Arizona, another week passed without precipitation. The last measurable precipitation in Flagstaff fell just before Christmas (December 20th). A predominantly dry pattern has been in place since the very beneficial and welcome late-season monsoon rains last September. Impacts are somewhat limited at this time due to lower ET rates during winter, but an increased snowpack in the next two months is needed to preclude more serious problems. SNOTEL Snow Water Equivalent (SWE), as of January 29,

Weekly Snowpack and Drought Monitor Update Report

2014, is mostly well below normal across the Mogollon Rim area (ranging from 18-44 percent), and in the White Mountains of eastern Arizona (SWE 27-40 percent of normal). As a result, a 1-category downgrade was made for both areas. In northern New Mexico's Sangre de Cristo Mountains, SWE's range from about 56-62 percent of normal. The last significant snowfall event for this region occurred from November 21-24, 2013, when about a foot of snow fell. Continued dryness since that time and fairly low SWE's prompted a one-category downgrade across much of northern New Mexico up to the D3 designation.

In southwestern Colorado, with declining SNOTEL precipitation percentiles and snowpack percent of normal values, a 1-category downgrade (from no dryness to D0) was rendered to the drought depiction. In northeastern Colorado, a 1-category downgrade (from no dryness to D0) was made over southern Logan County, Washington County, and northern Lincoln County. In northeastern Colorado, the Standardized Precipitation Indices (SPIs) for the past 30 days (0 to -1.0) and 90 days (0 to -2.0) also support these alterations to the depiction. In addition to below-average precipitation from much of November through the present time, high winds have prevailed. There were reports of dry topsoil and blowing dust in Washington County, though some of this is due to management of fields.

Looking Ahead

During January 30-February 3, 2014, locally heavy precipitation amounts (2.5-3.5 inches, liquid equivalent) are expected for the higher elevations of the Cascades, the Sierras, the Bitterroots, the Wasatch, and the Colorado Front Range, which should help to elevate the SWE's in those areas. Moderate precipitation (0.5-1.5 inches) is predicted across the abnormally dry regions of the central Gulf Coast and lower Mississippi Valley, as well as parts of south-central Florida. Elsewhere, precipitation amounts of less than a half-inch are generally forecast.

For the ensuing 5-day period, February 4-8, 2014, there are elevated odds of above-median precipitation over much of the nation east of the Continental Divide, except for portions of the upper Mississippi Valley and northern Plains, where odds favor below-median precipitation. Below-median precipitation is also favored for California, southern Arizona, and most of Alaska."

State Activities

[State government drought activities](#) can be tracked through their drought plans. NRCS Snow Survey and Water Supply Forecasting (SSWSF) Program State Office personnel are participating in state drought committee meetings and providing the committees and media with appropriate [SSWSF information](#). Additional information describing the [tools](#) available from the Drought Monitor can also be found at the [U.S. Drought Portal](#).

More Information

The National Water and Climate Center (NWCC) [Homepage](#) provides the latest available snowpack and water supply information. This document is available [weekly](#). CONUS Snowpack and Drought Reports from 2007 are available online. Reports from 2001-2006 are available on request.

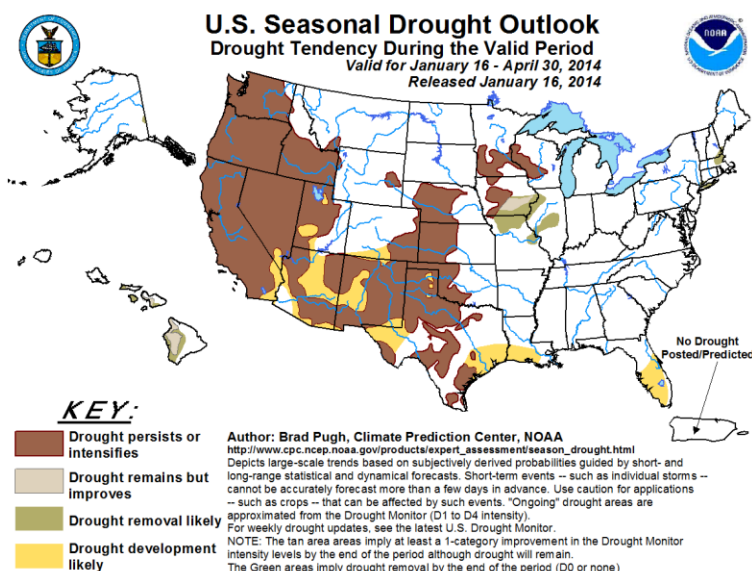
This report uses data and products provided by the Interagency Drought Monitor Consortium members and the National Interagency Fire Center.

/s/

David W. Smith
Acting Deputy Chief, Soil Science and Resource Assessment

Weekly Snowpack and Drought Monitor Update Report

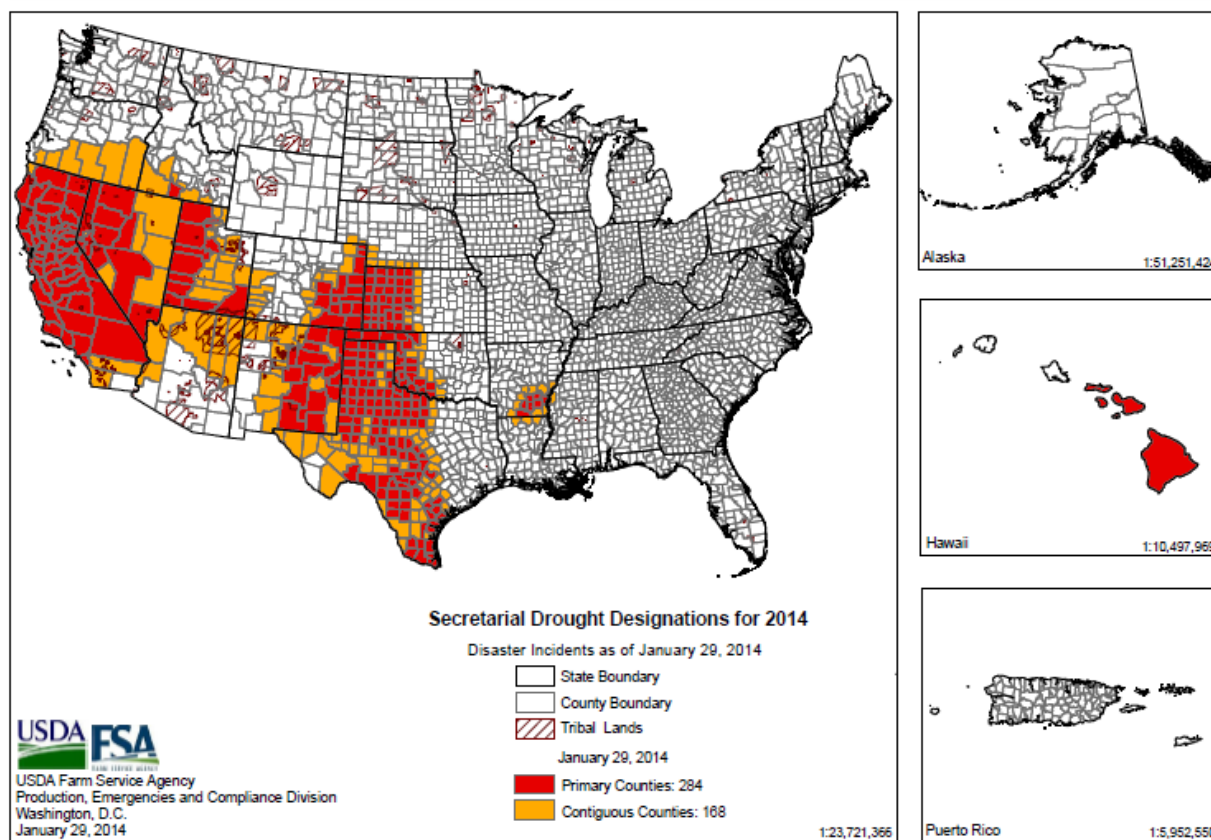
Drought Outlook



U.S. Seasonal Drought Outlook through the end of April shows:

- Drought is expected to improve over the upper Mississippi River Valley. Persistent or worsening drought is expected over much of the western half of the nation (including southern Florida, but excluding the northern half of the Rockies).
- ✓ Also see: [National Significant Wildland Fire Potential Outlook](#) (updated on the first of each month) contains a content summary of the previous month's conditions.

2014 Secretarial Drought Designations - All Drought



Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#). Read about the new [USDA Regional Climate Hubs](#).

Weekly Snowpack and Drought Monitor Update Report

Supplemental Drought News

This is a collection of drought-related news stories from the past week. Impact information from these articles is entered into the [Drought Impact Reporter](#). A number of these articles will also be posted on the [Drought Headlines](#) page at the NDMC website.

Dry California Drought bill

House Speaker John Boehner appeared with Central Valley Republicans to announce an emergency drought-relief bill to aid California farmers through a parched 2014. The bill, put forth by Reps. David Valadao of Hanford (Kings County), Kevin McCarthy of Bakersfield and Devin Nunes of Tulare, would put on hold the restoration of the San Joaquin River intended to restore the historic salmon flow. The bill has not yet passed in the Senate.

The legislative proposal incorporates three main actions:

- Turning on the Delta pumps this year and next year to capture future rain events
- Ending restoration flows in the San Joaquin River for this year and next year in order to stop wasting water
- Establishing a bipartisan, emergency joint committee from the House and Senate to devise a long-term legislative solution

The drought emergency declaration on Jan. 17 softened some environmental rules and water quality standards, allowing water that is saltier and warmer than previously permitted in rivers and estuaries. Fishing and environmental groups worry that the water needs of cities and farms will take priority over wildlife's water needs.

California's water shortage

The expectation of receiving just 5 percent of contracted water amounts from the State Water Projects has municipalities, water districts, farmers and others considering their options very carefully.

Numerous cities, counties and water districts continue to urge or mandate water conservation. The governor also urged in his drought emergency declaration that all Californians curb water use by 20 percent.

Some San Joaquin Valley farmers are responding to the water crisis by bulldozing almond trees, idling fields and changing cropping plans to make wise use of what little water they will get.

Fire activity in California

Drought in California contributed to the 150 wildfires seen since the start of 2014, compared to an average of 25 fires. The dry vegetation fuels the fires and requires the use of more resources than normal to extinguish the flames.

Drought-related health problems

Drought in California has coincided with a dramatic increase in the number of Coccidioidomycosis (Valley Fever or cocci) cases in the southern San Joaquin Valley. Valley Fever is caused by a fungus that becomes airborne when soil is disturbed by strong winds or other events. Most of the time, infection goes unnoticed, but in rare cases, it can be fatal.

The Environmental Protection Agency lists these issues that particulates in the air can cause:

- premature death in people with heart or lung disease;
- nonfatal heart attacks;
- irregular heartbeat;
- aggravated asthma;
- decreased lung function; and
- increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.

Watch out for bears

California bears are emerging from hibernation three months early, but drought has reduced natural food sources for bears, which could easily lead them to dine from neighborhood trash cans and other residential sources.

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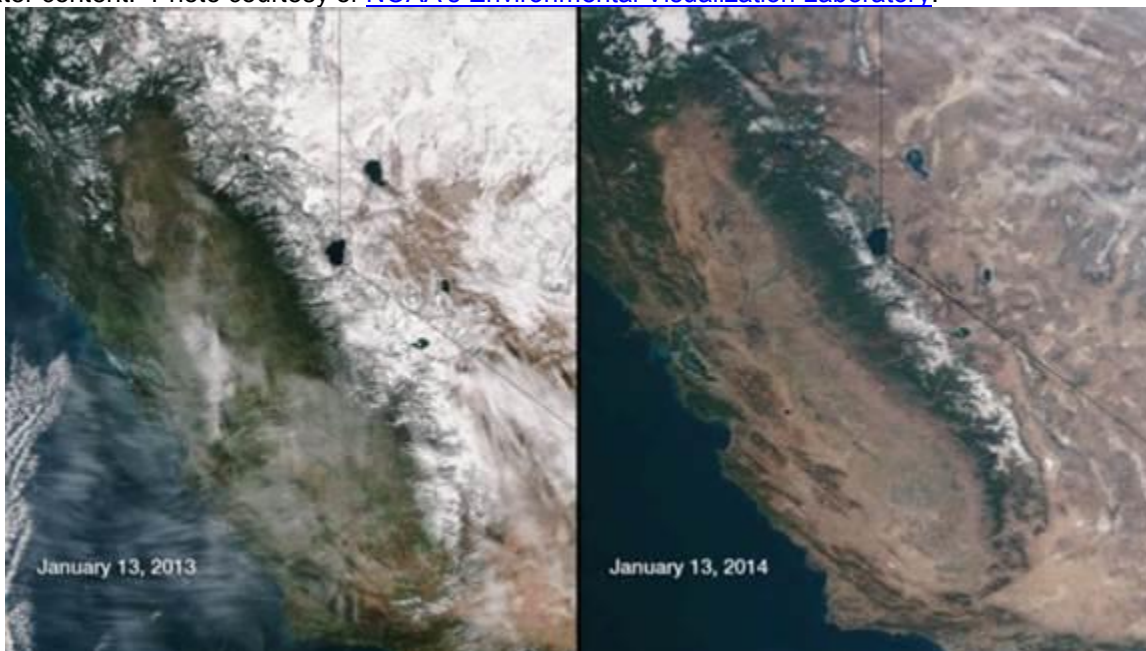
Historical finds

Low water levels in lakes across the Western U.S. are revealing hidden historical artifacts not seen in many years. Lake Folsom in California, Lake Mead near Las Vegas, Lake Powell on the Utah/Arizona border and Lake Buchanan near Austin are some of the lakes sharing their secrets.

Sacramento record

The previous record in Sacramento of 47 rainless days was set in 1884. Kelly Redmond of the WRCC in Reno said that the 30 month stretch ending December 2013 was the driest period in California since 1895.

The Sierra Nevada mountain range in California has much less snow than it did last year at this time (see the image below). The January snow survey revealed a snowpack with 20 percent of average water content. Photo courtesy of [NOAA's Environmental Visualization Laboratory](#).



Drought elsewhere

Oregon

The statewide snowpack in Oregon is 32 percent of average, and the fire danger is high. The National Weather Service issued a fire watch for the southwestern part of the state, but fire watches are typical for late summer and early fall, not January.

Water conservation is urgently needed in southwestern Oregon as reservoirs hit record lows.

Flagstaff, Arizona

Flagstaff, Arizona is seeing its fifth longest winter dry stretch of 32 days without precipitation. The record of 39 snowless days will be broken next weekend and does not bode well for water supplies this year.

The "U.S. Crops in Drought" products are produced on a weekly basis, and can be viewed [here](#). Archived "U.S. Crops in Drought" files can be downloaded [here](#).

[California Sierra from space](#) (Courtesy of [spacweather.com](#))

SPACE WEATHER BALLOON, LAUNCHED AND RECOVERED: On January 25, the students of [Earth to Sky Calculus](#) launched a suborbital helium balloon from Bishop, California, and recovered the payload hours later from a nearby canyon. The goal of the mission was to measure high-energy radiation levels in the stratosphere. Those data are being reduced now. **The students also captured panoramic images of California's epic drought:**

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So much for the Golden State. The landscape of California is remarkably brown as the driest winter in more than a century unfolds. The drought is so bad that the city of Bishop, where the students go to school, looks like a settlement on the planet Mars: [image](#).

"Up and down California, from Oregon to Mexico, it's dry as a bone," comments JPL climatologist Bill Patzert. "To make matters worse, the snowpack in the water-storing Sierras is less than 20% of normal for this time of the year."

Indeed, the towering Sierras, only sparsely covered by crusty month-old snow, lack their usual white reflectance in many of the group's [edge of space photos](#). Not much water will be flowing from those peaks to urban areas when the snow melts in spring. Water rationing and wildfires are likely this summer.

Other Tea Cup reservoir depictions:

<http://www.usbr.gov/uc/water/basin/> ← Upper Colorado
http://www.usbr.gov/uc/wcao/water/basin/tc_gr.html; ← Upper Snake
<http://www.usbr.gov/pn/hydromet/burtea.html> ← Upper Colorado
http://www.usbr.gov/uc/water/basin/tc_cr.html ← Upper Colorado
<http://www.usbr.gov/pn/hydromet/select.html> ← Pacific Northwest
<http://www.sevierriver.org/reservoirs/teacup-diagram-of-reservoirs/> ← Sevier River Water (UT)

See westwide [water](#)
[supply forecast tables](#)